FIVE GUAR GERMPLASM LINES

Five breeding lines of guar (*Cyamopsis tetragonoloba* (L.) Taub.) (Reg. No. GP1 to GP5) were officially released to scientists by USDA-ARS and the Texas and Arizona Agricultural Experiment Stations in 1982. These lines possess resistance to the major guar disease, bacterial blight, caused by *Xanthomonas cyamopsidis* Pat. Dhonde and Kulkarni. Lines have high yield potential and possess other characteristics that make them valuable as parents. Races of all five lines are medium-size; pods are medium-length and generally contain from five to nine seeds per pod. Seeds are of an acceptable size ranging from 2.9 to 3.3 g/100 seeds, vs. 3.0 g for 'Brooks' and 'Esser'. Plants are relatively tall and medium-stemmed.

TX 77-3347 (Reg. No. GP1) is a branching, indeterminate, F6 selection from a controlled natural cross, 'T64001-7-10-1-1-B-3-1' X PI 338780-B, made at Chillicothe, Tex. in 1971. The glabrous female parent is a bacterial blight resistant, branching, medium-maturing, tall (86 cm), high yielding selection from the cross, Brooks X 'Mills', made at College Station, Tex. in 1964. The male pubescent parent is a nonbranching, late-maturing, tall (122 cm), bacterial blight resistant plant. Introduction from India. TX 77-3347 has a branching growth habit, similar to Brooks and Esser, and possesses excellent field resistance to bacterial blight. Leaves and stems are pubescent. Mature plants average 80 cm in height at Chillicothe, similar to Esser. Seeds are dull-white and slightly smaller than Esser and Brooks, averaging 2.9 g/100 seeds. In regional yield trials (1978-1981), TX 77-3347 has yielded slightly more than 'Kinman' and Esser. The unique features of TX 79-2741 are its basal-branching growth habit, large seed and raceme-initiation at each node.

Limited amounts of seed of each of the five germplasm lines will be provided to guar breeders upon written request and agreement to make appropriate recognition of its source as a matter of open record when this germplasm contributes to the development of new varieties. Requests for seed should be sent to Foundation Seed Service, Texas Agric. Exp. Stn., Texas A&M Univ., College Station, TX 77843 or to Foundation Seed Service, Arizona Agric. Exp. Stn., Univ. of Arizona, Tucson, AZ 85721.


References and Notes


BSAA(SRCB)C4 and BSBB(SRCB)C4 MAIZE GERMPLASM

Maize synthetics BSAA(SRCB)C4 (Reg. No. GP123) and BSBB(SRCB)C4 (Reg. No. GP124) (*Zea mays* L.) evolved from a research program conducted cooperatively by the Iowa Agriculture and Home Economics Experiment Station and USDA-ARS. These synthetics have good resistance to stalk rot (caused by *Diplostichum maydis* Berk. Sacc.) and to leaf feeding by first-generation of the European corn borer (*Ostrinia nubilalis*, Hübn.) and were released because of their value in breeding programs. Breeder seed is maintained by the Iowa Agriculture and Home Economics Experiment Station, and the distribution of seed is by the Committee for Agricultural Development, Department of Agronomy, Iowa State University.

BSAA(SRCB)C4. The original BSAA synthetic was described by Russell et al. (1971) (2). It was developed by recombining 58 north-central Corn Belt inbred lines to provide a broad genetic base of improved germplasm for use in quantitative genetic studies. The performance of BSAA per se and in a nine-synthetic diallel was reported by Hallauer and Sears (1968) (1).

Recurrent selection was used for four cycles to improve the resistance in BSAA for stalk rot and first generation of the European corn borer. Evaluation of S1 lines for resistance to corn from the cross, Brooks X Mills, made at College Station in 1964. The male pubescent parent is described above. TX 78-3726 has excellent field resistance to bacterial blight. Leaves and stems are glabrous. The main stem and three to five basal branches possess short internodes with racemes initiated at each node, as opposed to the alternate-node bearing habit of previously released cultivars. Mature plants average 77 cm in height at Chillicothe, similar to Esser and Brooks. Seeds are dull-white and average 3.0 g/100 seeds. The unique features of TX 78-3726 are its basal-branching growth habit and short internodes with raceme-initiation at each node.

TX 79-2741 (Reg. No. GP5) is a basal-branching, determinate, medium-maturing, F6 selection from the same cross as the TX 78-3726 selection. Leaves and stems are glabrous. Plant reaction to bacterial blight has not been adequately determined. Mature plants average 83 cm in height at Chillicothe which is equal to Kinman, and more than TX 78-3726. Seeds are dull-white and larger than those of TX 78-3726, averaging 3.2 g/100 seeds. In regional yield trials (1980-1981), TX 79-2741 has yielded slightly more than Kinman and Esser. The unique features of TX 79-2741 are its basal-branching growth habit, large seed and raceme-initiation at each node.